

## CLAIMS

1. A signal discriminator which is formed of a soft magnetic material to form a closed magnetic path, is attached on a cable such that the cable passes through the closed magnetic path, and which passes an electric signal flowing through the cable and blocks a noise signal flowing through the cable,  
characterized in that the soft magnetic material has its complex relative permittivity varying with frequency, and a real part of the complex relative permittivity is large in a frequency domain lower than a frequency of the electric signal flowing through the cable and small in a frequency domain higher than the frequency of the electric signal.
2. A signal discriminator according to Claim 1, wherein the real part of the complex relative permittivity of the soft magnetic material ranges from 1,000 up to 20,000 at 1 kHz, and from 50 downward at 1 MHz.
3. A signal discriminator according to Claim 1 or 2, wherein the soft magnetic material is Mn-Zn ferrite having a basic component composition comprising 44.0 to 50.0 (50.0 excluded) mol %  $\text{Fe}_2\text{O}_3$ , 4.0 to 26.5 mol %  $\text{ZnO}$ , 0.1 to 8.0 mol % at least one of  $\text{TiO}_2$  and  $\text{SnO}_2$ , and the rest consisting of  $\text{MnO}$ .
4. A signal discriminator according to Claim 1 or 2, wherein the soft magnetic material is Mn-Zn ferrite having a basic component composition comprising 44.0 to 50.0 (50.0 excluded) mol %  $\text{Fe}_2\text{O}_3$ , 4.0 to 26.5 mol %  $\text{ZnO}$ , 0.1 to 8.0 mol % at least one of  $\text{TiO}_2$  and  $\text{SnO}_2$ , 0.1 to 16.0 mol %  $\text{CuO}$ , and the rest consisting of  $\text{MnO}$ .
5. A signal discriminator according to any one of Claims 1 to 4, wherein the soft magnetic material has a resistivity of 150  $\Omega\text{m}$  or higher.